

**Statement of**  
**W. John Arthur III, Deputy Director**  
**Office of Civilian Radioactive Waste Management**  
**Office of Repository Development**  
**U.S. Department of Energy**  
**Subcommittee on Federal Workforce and Agency Organization**  
**Committee on Government Reform**  
**U.S. House of Representatives**  
**June 29, 2005**

Mr. Chairman and members of the Committee, I am John Arthur, Deputy Director of the Office of Civilian Radioactive Waste Management for Repository Development. My office is located in Las Vegas, Nevada and I have been with this program for the past two and one half years.

We are here today because of a series of e-mails by a few people that suggests an intentional failure to comply with quality assurance requirements. Let me first say how disappointed I am with the circumstances that have brought us here today. I take this matter very seriously, and as you are aware, the Energy Department has disclosed it forthrightly and freely. Any falsification of records or data or other misconduct is completely unacceptable and inexcusable.

We conduct our work at the Yucca Mountain repository project with our first priority on ensuring the health and safety of the public and workers, while protecting and safeguarding the environment. These objectives have guided more than twenty years of scientific study by some of the best scientists and engineers in the world.

These scientists and engineers have come from our own national laboratories, the international scientific community, universities, including the University and Community College System of Nevada, Federal agencies, as well as numerous government contractors. The expertise assembled to work on this project is truly world class and their work is the basis for the Yucca Mountain repository safety analysis.

### **Specifics of the Issue**

During our internal cataloging of materials for the Nuclear Regulatory Commission (NRC) License Application process, specifically in the Licensing Support Network (LSN), Yucca Mountain Project employees discovered a series of e-mails written between 1998 and 2000 by a few U. S. Geological Survey employees. These e-mails appear to indicate an intention to falsify quality assurance information and willful misconduct or non-compliance with quality assurance requirements associated with water infiltration modeling at Yucca Mountain

Shortly after I was briefed on this matter on March 11, 2005, the Department of Energy's Office of Inspector General and the Secretary's Office were notified. Additionally, we notified the Department of the Interior, the NRC, Congress, and the state of Nevada.

On March 16, 2005, the Secretary of Energy ordered an immediate scientific investigation of the data and documentation that was part of this modeling activity as well as a thorough review of all the work completed by the individuals to determine whether other work was affected.

I would like to put this matter in perspective. Out of more than ten million e-mails, the object of this hearing is a handful of e-mails that indicate a possible intentional circumvention or misrepresentation of compliance with Yucca Mountain Project quality assurance requirements by these same USGS employees.

The Department of Energy has used USGS since 1983 and has invested approximately \$380 million in USGS research to support of the repository program, pursuant to an interagency agreement. Under this agreement, the USGS was required to comply with applicable quality assurance requirements, and was responsible for assuring technical performance, the technical quality of its products, and defending the technical quality of their work on the Yucca Mountain Project and with apparently one or two exceptions, they did.

The safety analyses established by the work products are prepared and peer reviewed by qualified scientists and engineers from our country's national laboratories and top technical institutions to ensure a sound technical safety basis. Through the licensing process, NRC will ultimately decide whether the repository receives a license.

## Status

Our quality assurance expectations are spelled out in the work agreement between the Department of Energy and the US Geological Survey, clearly and unambiguously. Problems with Mr. Hevasi's adherence to QA requirements, though not the existence of previously discovered emails, were first identified in a DOE QA audit in January 2000. The majority of the QA program issues from the emails were documented in deficiency reports. The deficiencies were related to software controls, the lack of a scientific notebook, and traceability and transparency issues. Corrective actions were implemented and verified in mid-2000. DOE conducted a follow-up QA audit in February 2001 and concluded that the USGS had made improvements and was effectively implementing the QA program.

The e-mails themselves did not suggest that any scientific measurement was falsified. However, because our quality assurance requirements were not met, no matter how good Mr. Hevasi's work products and modeling may be, these products cannot be trusted today without reverification or replication of the specific work.

Fortunately, our regulator, the Nuclear Regulatory Commission has a procedure on how to deal with information that has not been qualified through other procedures: NRC NUREG-1298, *Qualification of Existing Data for High-Level Nuclear Waste Repositories*. NUREG-1298 was developed to evaluate and "qualify" data that was obtained without an appropriate QA program in place. Although the USGS infiltration estimates were gathered with a QA program in place, the concerns raised by the emails make it prudent to assume that the infiltration estimates effectively were

produced absent a QA program, thus warranting the application of NUREG-1298. NUREG-1298 discusses several attributes as part of the qualification process, including (1) the extent and quality of corroborating data or confirmatory testing results and (2) prior peer review of other professional reviews of the data and their results. We are currently evaluating the data in question using this protocol. *Preliminarily*, we believe there is ample corroborating data from non-USGS sources, including the State of Nevada itself and extensive peer review of the infiltration model that validates the technical basis for the project.

In addition to the process that I described above, the Department of Energy is taking the following other actions:

- First, an investigation is being conducted by the DOE Office of Inspector General.
- Second, the Secretary ordered a technical review of water infiltration modeling and analyses.
- Third, the Department is conducting a number of reviews into in the record systems to determine whether similar behavior has been exhibited by others.

Over the next several months, summary reports of these evaluations will be issued.

## **Summary**

In summary, the Yucca Mountain project is very important to the energy security of the United States. This project has been and will always be based on sound science and engineering. We are currently in a process to re-evaluate data that has come under question on the infiltration model because our quality assurance requirements may not have been met. We will take whatever action is necessary to ensure that we have a sound technical basis going forward.